

What They Do

Process Development Associates put into place the best procedures to make the most product at the lowest cost. Manufacturing involves stable, efficient processes, and the Process Development Associate help makes this possible. Associates help conduct experiments that can point the way to efficient, cost-effective production techniques. They may help test for purity, develop assays for purified samples, and help resolve the inevitable problems that are associated with full-scale production.

The manufacturing processes may be in fermentation, purification, and aseptic fill areas. Packaging and distribution procedures might also fall within the associate's area of responsibility. They may be also responsible for researching, developing, and implementing new methods and technologies to improve production.

*Process Development Associates in the biotech industry combine characteristics of Industrial Engineers and Chemists. Detailed descriptions of these occupations may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.*

Important skills, knowledge, and abilities include:

- ▶ Speaking – Talking to others to convey information effectively.
- ▶ Writing – Communicating effectively in writing as appropriate for the needs of the audience.
- ▶ Computers and Electronics – Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.
- ▶ Chemistry – Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.
- ▶ Production and Processing – Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
- ▶ Systems Evaluation – Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.
- ▶ Active Learning – Understanding the implications of new information for both current and future problem solving and decision-making.
- ▶ Problem Sensitivity – The ability to tell when something is wrong or is likely to go wrong.

Training/Requirements

- ▶ Bachelor or master's degree in biosciences, other scientific disciplines, or in engineering.
- ▶ Up to two years experience in manufacturing.

In addition to the above requirements, associates working in biotechnology would benefit from taking coursework in biology, chemistry, and chemical production.

Process Development Associates

Biotechnology Careers

What's the California Job Outlook?

While the Bureau of Labor Statistics does not collect data on Process Development Associates, the occupations listed below are found in the biotechnology industry and have similar duties. The California outlook and wages figures are drawn from all industries and represent occupations comparable to Process Development Associates.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Industrial Engineers				
17-2112	18,600	20,800	670	\$30.00 to \$44.98
Chemists				
19-2031	10,300	12,700	580	\$20.51 to \$37.71

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Additional Sources of Information

Institute of Industrial Engineers
(800) 494-0460
www.iienet.org

Occupational Information Network (O*NET)
<http://online.onetcenter.org>